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Thermodynamic analysis of the plasma-chemical conversion of polymers into synthesis gas

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Abstract

© 2018 Institute of Physics Publishing. All rights reserved. The composition of the gas formed during the decomposition of polyethylene and polyethylene terephthalate in steam-water plasma was calculated. The database includes thermodynamic information of 32 individual substances that can be formed from carbon, hydrogen and oxygen atoms. The calculated temperature range was chosen from 1000 to 2250 K. The conditions for achieving optimal regimes for the conversion of polymers into synthesis gas was analyzed.

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